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ABSTRACT

Students in a small group discussion class offered as part of a speech communication curriculum found that testing their knowledge of the theory of the course in small groups was a positive learning experience. Each self-selected test group was made up of three students and was formed at least two class periods prior to the exam. Time was given in class for social interaction, and on the day of the exam, each group received three copies of the test with the instructions that only one copy was to be completed and submitted as the "official exam" of the group. Student reaction to the group testing situation was assessed on an opinionnaire that rated such benefits as learning to work within groups, providing real experiences in group problem solving, studying harder for group tests than for individual tests, and scoring higher on group tests. The group test meets four criteria for effective decision making groups: it fosters the quality of participation to increase available information, it develops a tolerance for conflict, it cancels out individual errors, and it develops an overall positive attitude toward group action. Negative effects are that individually-based graded activities must be incorporated to overcome the effects of high group scores and the impact of the group test decreases with repeated experiences. (AEA)

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TESTING IN GROUPS: A REAL EXERCISE IN SMALL GROUP PROBLEM-SOLVING

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More and more human activity takes place in small groups. When students leave the university classroom they will enter organizations as teachers, foremen, public relations officers, attorneys, doctors. Virtually every occupation, including housewife/househusband, will place them in group settings. The egalitarian spirit of our country, fostered in educational institutions and becoming accepted in the business community, encourages the development and use of small groups for dispersing and evaluating information and making decisions. Therefore, the speech communication course which attempts to make students better performers in a small group setting is an important course.

But that egalitarian spirit, seeking to maximize the involvement of the individual and assuming equality with all other individuals, also requires that group participants be "equally" motivated, "equally" knowledgeable, and capable of cooperating one with the other. For no matter how well prepared an individual may be, or a collection of individuals may be, if they cannot cooperate then the benefits of coming together are lost.

Rationale for Group Tests

Two different perspectives for approaching speech communication education have been identified: (1) the development of methods for thinking and talking about communication phenomena (theory) and (2) the creation of a learning environment in which thinking and learning grows from doing (Ruben and Budd, 1975). The authors note that the two approaches are not mutually exclusive. In small group discussion class, where the objective is to develop skills useful in post-classroom experiences, the combination of the two approaches seems most appropriate.

That is, the understanding of theory from which individuals may make strategic determinations is combined with the practicing of those strategies developed from theory by participating in class games and simulations. Like many other instructors, I have adopted the experiental-based learning approach for small group communication. However, as I used this approach, I found that students could avoid the learning requirements of simulations/games because they knew they were in a "game." While I did not wish to abandon the experiental learning approach, I did seek to find some experiences which would be "real" within the learning environment from which the student could not abstract himself/herself. The result of this search was to test in groups--to test the student's knowledge of the theory of the course in the setting being studied by the course, small groups.

Procedures

The procedures for testing in groups are relatively simple. The test groups are comprised of three students. The students choose their own groups. The self-selection of the test groups is based upon the assumption that groups will be more productive if individuals feel comfortable with the other individuals of the group. In order to enhance this feeling of comfort, the test groups are created at least two class periods prior to the exam and time in class is given for the students to interact. Usually the in-class period is redundant since in an activities-based course the students would have met and worked together on some in-class project. However, I use the in-class time to make salient the concept that groups need time to socialize and to be comfortable with one another. Once the groups have been formed they are instructed that each group will receive three copies of the exam

and that one exam is to be completed and returned as the "official exam" of the group. They are encouraged to reach consensus on the answers to the questions. However, in order to protect individuals, the groups are instructed that minority reports are possible. The only rule governing minority reports are that the "deviant" must be clearly identified and his/her answer will be evaluated separately.

On the day of the test the three-person groups are spread throughout the classroom. The interaction during the exam creates a relatively noisy test-taking environment. The use of more than one room has proved desirable.

Working in groups tends to make problem-solving slower than working as individuals. As a result, the exam is a mixture of short-answer and short-essay questions. Questions which require students to write are more difficult for the test groups because the three must agree on the wording of the answer. This may take several minutes as the group attempts to properly phrase a single sentence. Even short answers, like true/false, take longer in groups than for individuals, again because of the needed interaction between the members. But of course, engaging in interaction to solve a problem is the purpose of testing in groups!

At least one question on the test asks for the group to evaluate itself on some concept presented in the units covered on the exam. For example, groups have been asked: What roles did individual members play? Who exerted the greatest influence on the group? What leadership functions were performed by members of the group? How did the group organize itself in order to achieve the goal of test completion? This evaluation question is intended to encourage the groups to analyze their own behavior while exemplifying the concept.

Student Reactions

When first proposed to a class, a number of students showed anxiety toward being tested in groups. Their concerns ranged from a fear that others would take advantage of their knowledge to get good grades without doing work to a fear that the test could not be completed within the period because of the required interaction. Any student who did not wish to participate in the testing was not forced to. In the several classes in which group testing has been tried, however, no student has voted against group testing once they have experienced it.

In order to assess student reaction to group testing a six-question opinionnaire was distributed at the beginning of the class hour following the group test. The opinionnaire was completed by individuals who were asked to indicate their agreement or disagreement with the following six statements (Strongly Agree, Agree, Maybe, Disagree, Strongly Disagree):

1. "Group tests help us to learn to work within groups."

2. "Group tests achieved the goal of providing real experiences in group problem-solving."

3. "I studied harder for the group tests than for tests I take alone."

4. "Group tests should be used in future classes in small group discussion."

5. "I expect my score on a group test to be higher than on a test taken alone."

6. "Group tests reward some students with good grades who have not studied but depend upon the studying of others to carry them."

Using 5 to represent Strongly Agree, 4 Agree, 3 Maybe, 2 Disagree, and

1 Strongly Disagree, student reactions to the six questions reported in Table I indicate they find the group test experience a positive one.

TABLE I

N	Question	Mean
55	1	4.58
	2	4.47
	3	3.65
	4	4.31
	5	3.84
	6	3.31

The first two questions were intended to discover if the rules for group testing in fact were met. That is, the students perceived the test as a real experience and reported they felt it helped them to learn to work within groups. Students were encouraged to explain their answers and some of the explanations provide us with insights into why students agreed with the first two statements. Regarding question #1, students wrote comments such as these:

"We had to work together to complete the exam."

"We had disagreements and differences of opinion that had to be discussed."

"There are explicit goals to be achieved; we had to work together to obtain those goals."

"Diversity of ideas had to be discussed, synthesized, and compromised."

In class oral evaluations of the tests, students added another reason for why they felt the test helped them learn to work within groups. They mentioned that the groups were organized before the exam and given time

to socialize and organize. Some groups divided up study units distributing the units to several individuals. Some studied together. Some partied together prior to the exam. The point the individual students made, however, was that the group test forced them to organize as a group in order to work efficiently during the test period itself as a group. They saw the test as being "real world experience," concluding that real world task groups do have time to work together and organize.

In explaining responses to the second question, students made the following observations:

"Because we had to work together, particularly if none of us knew the answer for sure. Then it had to be worked out."

"Resolving conflict and pooling information was real."

"The pressure to finish and do well was real."

"Because it (taking the test) took longer to come to a decision."

"A task had to be completed in a limited time."

"It forced us to solve a problem in a limited time."

"We had problems getting organized to work together."

"The group changed my opinion on certain answers."

These reactions represent the students' opinions. Notice--the "diversity of opinion," "the conflicts," "organizational difficulties," "progress toward goal,"--all characteristics of real groups--were perceived as present in the test group situation by the students.

The third, fifth and sixth questions were intended to determine if the test experience had any impact on the student's perception or preparation for the test and expectation for the outcome. Question three asks if they studied any harder. Question five asks if they expected to score higher, and question six asks if some were rewarded

for not adequately preparing for the exam situation. Students who indicated they studied more for the group test than alone reported that they did so because they did not want to "look bad" in front of others. Specifically, students made the following comments when they indicated they studied harder:

"I didn't want to be the freeloader."

"I didn't want to let the group down."

"Didn't want to depend upon others--the group needs participation from everyone."

"Because I didn't want to look stupid."

Some students answered "maybe" or "disagree" to the question on studying. However, no one indicated they studied less for the exam. Those who indicated "maybe" or "disagree" indicated that they studied about the same amount for the group exam as they would have studied the same material taking the test alone.

Regarding the expectations for the outcome of the test, students expected their grades to be higher from working in groups. Although no control group was established (a group taking the same test on the same material in order to compare these scores), it is my impression that the results of the test were higher than would be the grades if the exam had been taken individually. If so, then the students' perception of scoring higher was an accurate one. Essentially, students felt their grades would be higher because different interpretations of similar questions could be identified and discussed. A number of students said that they would have misunderstood the question had others not been present to assist them. The students indicated also that although their studying had been thorough any one individual might forget some pertinent fact or detail. If the tests had been taken alone, the forgotten detail

would have led to an incorrect answer. However, in the groups, one member seemed to remember the needed piece of information. Through the interaction they could reconstruct and recreate the necessary information.

Because students had initially expressed a concern that some would "freeload," question six was asked. There seems to be some indecision on the part of the students on whether or not there were freeloaders. In order to better understand the uncertainty of the students in their response to question six, a tabulation of individual responses (Table II) illustrates how they responded to the question.

Table II

Six	Strongly Agree	Agree	Maybe	Disagree	Strongly Disagree
	8	12	26	7	2

Students who "agreed" or "strongly disagreed" seemed to treat the question as hypothetical.

"It's (meaning freeloading) hard with three people."

"It may be possible, but not in our group."

"If the group allows it, kick them in the butt and exclude them."

"Although some may depend a little on the group to carry them through, I still think the group test is valuable. The students who normally study and do well on tests will study just as much as usual regardless, because their main goal is to learn something. Others may learn too."

"Not seen in our group."

"I agree this can happen but it didn't in our case."

Students who responded "maybe," "disagree" or "strongly disagree" also seemed to be answering in a hypothetical sense as reflected in their comments.

"If it happens, don't choose them the next time."

"Freeloaders will be excluded by the entire class."

After observing the self-selected test groups, it became apparent that students who may have not studied as thoroughly as others ended up in their own groups by the end of the semester. This suggested to me that a very strong code of ethics, a rule for "everybody studies" was operating in the classes. Actually, the numbers of students who fell into this category were very small. At least, I observed very few.

Finally, I wished to assess if students felt that other students should be subjected to the group tests and the response seems to be yes.

Overall, the student reaction to the group tests were positive, thus indicating that they felt the experience "real," that it did help them to learn to work together as a group on a real and complex task, that peer pressure encouraged them to study at least as hard if not harder for a group test than for tests taken individually, that they expected a higher grade than if they had taken a test alone and that the possibility existed for some students to be carried by others.

Instructor Reaction

After having watched small group classes take tests in groups for over two years, I concur with the students in their positive evaluation of the experience. Students spend time socializing in order to be comfortable with one another when they enter the testing situation. They spend time before class organizing their efforts in order to be more efficient during the test situation. Students recognize the need to cooperate with one another before and during the testing situation. And, they understand that disagreement may encourage the creative genius of

group. Therefore, conflict and disagreement are not feared by but motivate the group and yet, in the test situation, demand the conflict be resolved in some mutually satisfying manner. My observation of the groups suggests that they do resolve their conflicts, since I have never seen a group leave a test situation angry with one another.

In addition to my personal observations, there are four criteria for effective decision-making groups that the group-test meets. The first criterion is that an effective decision-making group fosters the quality of participation in an effort to increase the amount of information available to it (Hall and Williams, 1970). In responding to question number one, students indicated that they had to work together in a group in order to accommodate the diversity of interpretations of questions and the difference in information that was brought to the group. Students also indicated that they studied harder or that when they studied harder they did so to avoid looking the fool, or being the freeloader. That is, they wished to be prepared in order to be able to participate in the actions of the group itself. Then, as I watched the groups work on the test it was obvious that no one just sat throughout the test period. The second criterion is that a group needs a "tolerance for conflict" to be effective (Hall and Williams, 1970). The group needs to recognize that conflict is inherent in the process of solving complex tasks and that the groups need to be open to differences of opinion in order to encourage group creativity. Again, the reactions of the students themselves suggest that they do find conflict/disagreement within the group and that they do have to deal with it as a real phenomenon. Further, they seem able to do this and to resolve the conflict without creating hard feelings in the test or during the test.

Even after the graded exams are returned, students do not seem to blame one another for an incorrect answer. Rather, they treated the test as the outcome of the three, recognizing that if they missed a question it was because they were not able to come up with the answer, rather than because one member led them astray. In essence then, by dealing with conflict, they find meaningful cooperation. The third criterion is that effective groups are capable of cancelling out individual errors so that the outcome of the group is greater than the expected outcome for the individual (Hall and Williams, 1970). Again, the reactions of the students suggest this is the case. They expect the grades to be higher; they study harder to participate. They see the need to work together and cooperate literally to maximize the common goal--the achievement of the best grade. The fourth criterion for effective decision-making is the development of a positive attitude toward group action (Hall and Williams, 1970). After the students' initial hesitancy about involving themselves in group exams, once experienced, they prefer to be tested in groups. This suggests to me that attitudes toward group action have been changed by the experience. That is, they see the group as a positive way to solve problems and to take action albeit a test. And, they see the product of the group deliberations, assuming all members are prepared to participate, as being superior to the efforts of the individual. As one student wrote, "I never believed we could do it." Another student, reporting great disappointment in her experiences with groups on campus, indicated her faith had been renewed, that groups could tackle a real task and complete it.

Group tests are not without some negative side effects. First, group test scores are higher than scores expected for a test taken by an individual. This means, that if you give individual grades for a

course, then individually-based graded activities must be incorporated. A second negative effect is that students seem to study harder for the first, even second, group test but begin to slack off with the later exams. Students indicate that they begin to learn to spread their time, knowing that someone in the group will have the answer. The impact of the group-test, then, seems to be greatest when initially experienced.

Another justification may be found in the article "Team Spirit Versus the Individual Achiever" (Zander 1974), which argues that teachers need to design experiences which are group-based and in which groups, not individuals, receive rewards. Certainly, the group test is an experience designed for groups in which groups (and ultimately individuals) are rewarded. As such, the circumstance encourages students to prepare for groups, manage group activities and to cooperate with one another in order to achieve a common goal.

Other Applications

Since beginning group-testing in small group discussion class, I have tried it in other circumstances: in an undergraduate mass-lecture theory course, in an experientially-based course in nonverbal behavior including graduate students and in adult courses in interpersonal communication, organizational behavior and public speaking. The reactions found in the discussion course re-appeared in these other settings. The students found it a p[illegible]iv[illegible] experience, learned about working with others from it and found the testing-situation a learning experience in itself. This later result seems consistent with Thelen who argues that complex and difficult material can be learned in small groups (1977). The theory class students reacted favorably to the experience for precisely this reason--complex material could be talked through and

"learned" while the test was being completed. While many may argue that a "test is a test" and not a place to learn, if the ultimate objective is student learning of the material and confidence in their learning, then whatever will encourage achievement of that objective seems a legitimate pedagogy.

Group tests were initially attempted in small group discussion class as a means to take the classroom beyond simulation to some "real" experience. Students react positively to the experience as do adults and students in other classes. The instructor also reacts positively, finding that students do practice working together, do resolve conflict and do develop positive attitudes toward the effectiveness of groups. Whether or not students do better in groups than as individuals, how to overcome motivational lag over time, and whether or not interacting in a group test encourages learning the material are questions that need to be answered.

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